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# NOTICE OF ALLOWANCE AND FEE(S) DUE

7590

03/04/2004

Dean P. Edmundson P. O. Box 179 Burton, TX 77835

EXAMINER				
HARPER,	HOLLY R			
ART UNIT	PAPER NUMBER			

2879

DATE MAILED: 03/04/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,644	05/03/2001	Harold R. Kaufman	353-07	7230

TITLE OF INVENTION: HALL-CURRENT ION SOURCE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$300	\$1630	06/04/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

#### HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.
- Applicant claims SMALL ENTITY status.
   See 37 CFR 1.27.
- II. PART B FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.
- III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

#### PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where

Dean P. Edmundson P. O. Box 179 Burton, TX 77835	maintenance fee notification	below or directed otherwise ns.	in Block 1, by (a	) specifying a	new co	rrespondence address	; and/or (b) indicating a sep	arate "FEE ADDRESS" for
Dean P, Edmundson P, O. Box 179 Burton, TX 77835	CURRENT CORRESPONDENC	CE ADDRESS (Note: Legibly mark-up	with any corrections or	ruse Block 1)		Note: A certificate of Fee(s) Transmittal. The	mailing can only be used f	or domestic mailings of the
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P. O. Box 179 Burton, TX 77835  Slare Provided by that this Fe(s) Transmilla being deposited with the United Point Service with affecting postage for first class mail in an enveloped transmitted to the USPTO, on the date indicated below.  (Coposition of Coposition of								
APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   FIRST NAMED INVENTOR   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   ATTORNEY DOCKET NO.   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   ATTORNEY DOCKET NO.   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   ATTORNEY DOCKET NO.   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   ATTORNEY DOCKET NO.   ATTORNEY DOCKET NO.   ATTORNEY DOCKET NO.    APPLICATION NO.   FILING DATE   ATTORNEY DOCKET NO.						hereby certify that the	his Fee(s) Transmittal is bein	g deposited with the United
APPLICATION NO. FILING DATE FRST NAMED INVENTOR ATTORNEY DOCKET NO. CONFIRMATION NO.  99.784,544 95.03.2001 Harold R. Kaufman 353-07 7230  TITLE OF INVENTION: HALL-CURRENT ION SOURCE  APPLIN TYPE SMALL ENTITY ISSUE FEE PUBLICATION FEE TOTAL FEE(S) DUE DATE DUE nonprovisional NO \$130 \$300 \$1630 \$6604/2004  EXAMINER ART UNIT CLASS.SUBCLASS  HARPER, RIOLLUN R 2879 313-361100  1. Change of correspondence address of indication of "Fee Address" (12 CFR 1.65).  1. Change of correspondence address of change of Correspondence dates for Indication (or "Fee Address" (14 of a Customer Studies) of the Conference of	Burton, TX 77835					addressed to the Mai	il Stop ISSUE FEE address	above, or being facsimile
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The Address' indication (or 'Fee Address' Indication form PriOrSBA', Rev 03-02 or more recent) attached. Use of a Customer Number is required.  attorneys or agents. If no name is listed, no name 3  attorneys or agents. If no name is listed, no name 3  attorneys or agents. If no name is listed, no name 3  attorneys or agents. If no name is listed, no name 3  attorneys or agents. If no name is listed, no name 3  attorneys or agents. If no name is listed, no name is listed, no name will be printed.  attorneys or agents. If no name is listed, name is list	Address form PTO/SB/1	ence address (or Change of C 22) attached.	orrespondence	firm (havin	ig as a	member a registered	attorney or 2	
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PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.  (A) NAME OF ASSIGNEE  (B) RESIDENCE: (CITY and STATE OR COUNTRY)  Please check the appropriate assignee category or categories (will not be printed on the patent);   and state of composition or other private group entity   government at. The following fee(s) are enclosed:   4b. Payment of Fee(s):   A check in the amount of the fee(s) is enclosed.   Payment by credit card. Form PTO-2038 is attached.   Advance Order - # of Copies   Payment by credit card. Form PTO-2038 is attached.   The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number   Deposit Account Nu		of more recently attached. Ose	e of a Customer	will be prin	ited.		J	
Description of this form is NOT a substitute for filing an assignment.  (A) NAME OF ASSIGNEE  (B) RESIDENCE: (CITY and STATE OR COUNTRY)  Please check the appropriate assignee category or categories (will not be printed on the patent);   individual   corporation or other private group entity   government   4a. The following fee(s) are enclosed:   4b. Payment of Fee(s):   A check in the amount of the fee(s) is enclosed.     Publication Fee   Payment by credit card. Form PTO-2038 is attached.     Advance Order - # of Copies   Payment by credit card. Form PTO-2038 is attached.     Advance Order - # of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by card. Payment by card. Payment by credit card. Form PTO-2038 is attached.     The please of Copies   Payment by card. Payment by ca	3. ASSIGNEE NAME AND	RESIDENCE DATA TO B	E PRINTED ON T	THE PATENT	(print o	r type)		
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Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.  (Authorized Signature)  (Date)  NOTE; The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.  This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.		Copies						credit any overnayment to
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APPLICATION NO.	APPLICATION NO. FILING DATE		FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/848,644 05/03/2001		05/03/2001	Harold R. Kaufman	353-07	7230	
7	590	03/04/2004		EXAM	INER	
Dean P. Edmund P. O. Box 179	son			HARPER,	HOLLY R	
Burton, TX 77835				ART UNIT	PAPER NUMBER	
,				2879	<del>-</del>	
				DATE MAILED: 03/04/2004		

# Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 154 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 154 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

		1 4 1 1 1 1 1	br				
	Application No.	Applicant(s)					
Nation of Allowability	09/848,644	KAUFMAN ET AL.					
Notice of Allowability	Examiner	Art Unit					
	Holly R. Harper	2879					
The MAILING DATE of this communication appears on the cover sheet with the correspondence address All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.							
1. X This communication is responsive to the amendment filed	on 1/12/04.						
2. The allowed claim(s) is/are <u>1-3,6-8 and 10-17</u> .							
3. $\boxtimes$ The drawings filed on $\underline{5/3/01}$ are accepted by the Examine	er.						
4. ☐ Acknowledgment is made of a claim for foreign priority una) ☐ All b) ☐ Some* c) ☐ None of the:	nder 35 U.S.C. § 119(a)-(d) or (f).						
<ol> <li>Certified copies of the priority documents have</li> </ol>	e been received.						
<ol><li>Certified copies of the priority documents have</li></ol>							
<ol> <li>Copies of the certified copies of the priority do International Bureau (PCT Rule 17.2(a)).</li> </ol>	cuments have been received in this	national stage applica	tion from the				
* Certified copies not received:							
5. Acknowledgment is made of a claim for domestic priority userference was included in the first sentence of the specific	ınder 35 U.S.C. § 119(e) (to a provisi ation or in an Application Data Sheet	ional application) since . 37 CFR 1.78.	e a specific				
(a) The translation of the foreign language provisional							
6. Acknowledgment is made of a claim for domestic priority up in the first sentence of the specification or in an Application	ınder 35 U.S.C. §§ 120 and/or 121 si n Data Sheet. 37 CFR 1.78.	nce a specific referen	ce was included				
Applicant has THREE MONTHS FROM THE "MAILING DATE" of below. Failure to timely comply will result in ABANDONMENT of	of this communication to file a reply co this application. THIS THREE-MOI	omplying with the requ NTH PERIOD IS NOT	irements noted EXTENDABLE.				
7. A SUBSTITUTE OATH OR DECLARATION must be subminformal patent application (PTO-152) which give	nitted. Note the attached EXAMINER res reason(s) why the oath or declara	'S AMENDMENT or Nation is deficient.	OTICE OF				
8. CORRECTED DRAWINGS ( as "replacement sheets") mu (a) including changes required by the Notice of Draftsper		-948) attached					
1) ☐ hereto or 2) ☐ to Paper No		_					
(b) ☐ including changes required by the proposed drawing correction filed, which has been approved by the Examiner.							
(c) $\square$ including changes required by the attached Examiner	's Amendment / Comment or in the C	Office action of Paper I	No				
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).							
9. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.							
Attachment(s)							
1☐ Notice of References Cited (PTO-892)	5☐ Notice of Informal Pa	atent Application (PTO	-152)				
2 Notice of Draftperson's Patent Drawing Review (PTO-948) 6 Interview Summary (PTO-413), Paper No							
3 Information Disclosure Statements (PTO-1449 or PTO/SB/0 Paper No	8), 7□ Examiner's Amendm	ent/Comment					
4 Examiner's Comment Regarding Requirement for Deposit of Biological Material	8□ Examiner's Statemer	nt of Reasons for Allov	vance				
•							

## **DETAILED ACTION**

## **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

## In the Abstract:

The two paragraphs of the Abstract are combined to form one paragraph.

Line 10 previously read "effects of thermomechanical stresses." It will now read "effects of thermomechanical stresses. In another specific embodiment, which can be combined...."

#### Response to Amendment

The Amendment, filed on 1/12/2004, has been entered and acknowledged by the Examiner.

Claims 10-17 have been entered.

Claims 1-3 and 6-8 have been amended.

## Allowable Subject Matter

- 1. Claims 1-3, 6-8, and 10-17 are allowed.
- 2. The following is an examiner's statement of reasons for allowance:

Application/Control Number: 09/848,644

Art Unit: 2879

Regarding claims 1, 6, 15, and 16, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 1, 6, 15, and 16, and specifically comprising the limitation of a Hall-current ion source with an electron-collecting surface that is contoured with a plurality of protrusions and recesses so as to increase the surface area by one-half.

Regarding claims 10-14, claims 10-14 are allowable for the reasons given in claim 1 because of their dependency status from claim 1.

Regarding claims 2, 3, 7, and 8, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 2, 3, 7, and 8, and specifically comprising the limitation of a Hall-current ion source with an electron-collecting surface that is contoured with a plurality of protrusions and recesses wherein about one-third of the surface area cannot be reached by a straight line originating from a point exterior of the ion source.

Regarding claim 17, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 17, and specifically comprising the limitation of a Hall-current ion source with an anode that has a plurality of conducting layers separated by a plurality of non-conducting layers wherein the non-conducting layers extend beyond the conducting layers.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2879

## Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (571) 272-2453.

The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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Holly Harper Patent Examiner Art Unit 2879 NIMESHKUMAR D. PATEL SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2800